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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,858	11/12/2003	Kyeong-Hyeon Kim	8071-44 (OPP 030409US)	6701
22150	7590	05/18/2005	EXAMINER	
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			NGUYEN, THANH NHAN P	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,858

Applicant(s)

KIM ET AL.

Examiner

(Nancy) Thanh-Nhan P. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 32-42 is/are pending in the application.
- 4a) Of the above claim(s) 13-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 32-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Election/Restriction dated 4/6/2005.

Applicant provisionally elects, with traverse, claims 1-11, 12, and 32-42 which correspond to Fig. 1.

Applicant's arguments regarding the restriction requirement have been considered. However, the traversal was on the grounds is not found persuasive since each species as defined by examiner is considered serious burden from each other in examiner's view. Each species/embodiment really requires a lot of time to search even though all species/embodiments might be commonly classified. The reason that examiner has not demonstrated classified for each species since it is not required when doing species restriction. Instead, in species restriction, figure(s) are used for demonstrating the different between species, and examiner has done so.

Therefore, the requirement is deemed proper and is considered to be final.

2. Claims 13-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 6, 11-12, 32-33, 37 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lyu et al U.S. Patent Application Publication No. 2002/0149733.

Referring to claim 1, Lyu et al discloses a liquid crystal display device, comprising: first (1) and second (2) panels facing each other; a compensation film (41) and a first polarizer (10) disposed on the first panel, the compensation film having phase retardation characteristics; and a second polarizer (11) having a supporting film (30) disposed on the second panel, the supporting film having phase retardation characteristics, [see figs. 2 & 20].

Referring to claim 2, Lyu et al discloses a liquid crystal layer (100) for housing liquid crystals disposed between the first and the second panels, [see fig. 2].

Referring to claim 6, Lyu et al discloses the liquid crystals are aligned in a vertical alignment mode, [see fig. 1A].

Referring to claim 11, Lyu et al discloses the compensation film is a thin film having different values for N_x , N_y , and N_z wherein N_x denotes the refractive index in the direction of major axis, N_y denotes the refractive index in the direction of minor axis, and N_z denotes the refractive index in the direction perpendicular to the major and minor axis, [see par. 0089].

Referring to claim 12, Lyu et al discloses a liquid crystal display device, comprising: first (1) and second (2) panels facing each other; and a first polarizer (10) having a first supporting film (31) disposed on the first panel and a second polarizer (11) having a second supporting film (30) disposed on the second panel, wherein the supporting films disposed on the first panel and the second panel have phase retardation characteristics, [see figs. 2 & 20].

Claim 32 is met the discussion regarding claim 1 rejection above.

Claim 33 is met the discussion regarding claim 2 rejection above.

Claim 37 is met the discussion regarding claim 6 rejection above.

Claim 42 is met the discussion regarding claim 11 rejection above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3,5, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyu et al in view of Kuzuhara et al U.S. Patent Application Publication No. 2003/0156235, and further in view of Ito U.S Patent Application Publication No. 2004/0001175.

Referring to claim 3, Lyu et al discloses the first polarizer (10) includes a first supporting film (31), [see fig. 20].

However, Lyu et al lacks disclosure of the phase retardation of the first supporting film combined with the compensation film ranges about 130 nm to about 160 nm in the vertical direction.

Kuzuhara et al discloses a film with optical biaxiality having a retardation in plane of from 31-120 nm, and a retardation in the thickness direction of from 60-300, [see Abstract], for the benefit of providing wide viewing angle, [see par. 0012].

Ito discloses a film with retardation values in the in-plane direction of 0-20 nm, and the retardation values in the thickness direction of 30-70 nm, [see abstract], for the benefit of preventing the framewise light leakage when used in a large liquid crystal display panel, [see par. 0008].

From Kuzuhara et al and Ito references, it is possible to obtain the retardation values in the vertical direction by combining the phase retardation of the compensation film with the phase retardation of the first supporting film in the ranges of 90-370 nm. The ranges of the phase retardation of the first supporting film combined with the compensation film in the vertical direction in application are within the ranges of the phase retardation of the first supporting film combined with the compensation film in the vertical direction of the references, and therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the phase retardation of the first supporting film combined with the compensation film ranges about 130 nm to about 160 nm in the vertical direction for the benefit of providing wide

viewing angle, and preventing the framewise light leakage when used in a large liquid crystal display panel.

Referring to claim 5, Lyu et al lacks disclosure the phase retardation of the compensation film ranges about 40 nm to about 60 nm in the horizontal direction and about 80 nm to about 100 nm in the vertical direction.

Kuzuhara et al discloses a film with optical biaxiality having a retardation in plane of from 31-120 nm, and a retardation in the thickness direction of from 60-300, [see Abstract], for the benefit of providing wide viewing angle, [see par. 0012]. The ranges of the retardation values in the horizontal direction and in the vertical direction of the compensation film in application are within the ranges of the retardation values in the horizontal direction and in the vertical direction of the optical biaxial film in reference respectively, and therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the phase retardation of the compensation film ranges about 40 nm to about 60 nm in the horizontal direction and about 80 nm to about 100 nm in the vertical direction for the benefit of providing wide viewing angle in liquid crystal display.

Lyu et al also lacks disclosure of the phase retardation of the first supporting film ranges about 0 nm to about 5 nm in the horizontal direction and about 50 nm to about 60 nm in the vertical direction.

Ito discloses a film with retardation values in the in-plane direction of 0-20 nm, and the retardation values in the thickness direction of 30-70 nm, [see abstract], for the

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benefit of preventing the framewise light leakage when used in a large liquid crystal display panel, [see par. 0008]. Again, the ranges of the retardation values in the horizontal direction and in the vertical direction of the first supporting film in application are in the ranges of the retardation values in the horizontal direction and in the vertical direction of the film in reference respectively, and therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the phase retardation of the first supporting film ranges about 0 nm to about 5 nm in the horizontal direction and about 50 nm to about 60 nm in the vertical direction for the benefit of preventing the framewise light leakage when used in a large liquid crystal display panel.

Claim 34 is met the discussion regarding claim 3 rejection above.

Claim 36 is met the discussion regarding claim 5 rejection above.

Claims 4 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyu et al in view of Shibue et al U.S. Patent Application Publication No. 2004/0180149.

Referring to claim 4, Lyu et al lacks disclosure of the phase retardation of the supporting film of the second polarizer ranges about 0 nm to about 5 nm in the horizontal direction and about 100 nm to about 140 nm in the vertical direction.

Shibue et al discloses an optical film wherein the retardation value in thickness direction of 60-300nm, [see par. 0019], and the retardation value in the in-plane

direction is no more than 10 nm, [see par. 0023], for the benefit of minimizing problems due to abnormal light emission, and exhibiting high performance optical anisotropy, [see par. 0016]. The ranges of the retardation values in vertical direction and in the horizontal direction of the supporting film in the application are within the ranges of the retardation values in the vertical direction and in the horizontal direction of the optical film in the reference respectively, and therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the phase retardation of the supporting film of the second polarizer ranges about 0 nm to about 5 nm in the horizontal direction and about 100 nm to about 140 nm in the vertical direction for the benefit of minimizing problems due to abnormal light emission, and exhibiting high performance optical anisotropy.

Claim 35 is met the discussion regarding claim 4 rejection above.

Claims 7-10, and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyu et al in view of Kitagawa et al U.S. Patent Application Publication No. 2002/0140882.

Referring to claims 7 and 8, even though Lyu et al lacks disclosure of the polarizers include a polarizing medium made of polyvinyl alcohol (PVA), and the supporting films are made of triacetate cellulose (TAC) or cellulous acetate propionate (CAP). It was conventional at the time to have polarizing medium made of polyvinyl alcohol, and the supporting films are made of triacetate cellulose, as evidenced by

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Kitagawa et al, [see par. 0004], and therefore had the benefits associated with being conventional, such as the benefit of being available and the benefit of being suitable for the intended purpose. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the polarizers include a polarizing medium made of polyvinyl alcohol (PVA), and the supporting films are made of triacetate cellulose (TAC) or cellulous acetate propionate (CAP) for the benefit of being available and being suitable for the intended purpose.

Referring to claims 9 and 10, Lyu et al discloses an elongation direction for the polarizing medium having zero value of phase retardation in the horizontal direction is the same direction with an absorption axis of the polarizer disposed on the first panel, and the compensation film is laminated perpendicular to the elongation direction of the polarizing medium, [see fig. 20].

Claims 38-41 are met the discussion regarding claims 7-10 rejection above respectively.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lyu et al U.S. Patent Application Publication No. 2002/0149733 discloses a liquid crystal display device comprising polarizers, supporting films having phase retardation characteristics, and compensation film having phase retardation characteristics.

Kuzuhara et al U.S. Patent Application Publication No. 2003/0156235 discloses a film with optical biaxiality having a retardation in plane of from 31-120 nm, and a retardation in the thickness direction of from 60-300.

Ito U.S Patent Application Publication No. 2004/0001175 discloses a film with retardation values in the in-plane direction of 0-20 nm, and the retardation values in the thickness direction of 30-70 nm.

Shibue et al U.S. Patent Application Publication No. 2004/0180149 discloses an optical film wherein the retardation values in thickness direction of 60-300nm, and the retardation values in the in-plane direction is no more than 10 nm.

Kitagawa et al U.S. Patent Application Publication No. 2002/0140882 discloses of the polarizers include a polarizing medium made of polyvinyl alcohol (PVA), and the supporting films are made of triacetate cellulose (TAC).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 6, 2005

TN


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER